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ABSTRACT

Education is important because it directly affects our social quality of life, individual opportunities, national economic competitiveness, and other dimensions of life. Unfortunately, the true value of education is often only recognized by its absence. Although economic competitiveness is only one byproduct of national education quality, it does not present a tangible yardstick for comparing educational systems. There is no lack of concern or reform agendas for education, but increased public awareness is needed to garner lasting support. Chapter 1 focuses on the social value of education and describes it as a national investment in tangible and intangible terms. Earning power, intellectual stimulation, and greater personal freedom as rewards of personal investment in education are described in chapter 2. If adequate training and skills are not provided by public education, the lack of qualified applicants and retraining costs will cause hardships to businesses. Chapter 3 delineates the private sector's commitment to education. Chapter 4 emphasizes the need to educate for increased technological skill requirements that will appear in even the most basic jobs of the future. The need to champion a new spirit of education because of the costs of continued neglect is explained in chapter 5. (61 references) (EJS)

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Championing the Value of Education

Why the Public Should Support the Schools

David L. Funk

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Preface

The theme behind this month's OSSC Bulletin might best be captured through an analogy. Ever been caught in a violent storm or a hurricane and suddenly wonder: How strong is my house's foundation? Something so unglamorous as a foundation goes unnoticed until the moment its strength is severely tested. Now, in the late twentieth century, the United States is suddenly bracing against a storm of declining worker productivity, escalating crime and drug rates, and slipping voter awareness. Staring into the whirlwind, many people are beginning to ask, How strong is our nation's educational foundation?

Several cracks in that foundation are readily apparent: declining achievement scores, 3,800 high school dropouts a day, and growing private sector training costs to cover education's failings. So many people are growing alarmed over these and other signs of a weakened educational foundation that a new commitment to U.S. education may be possible. Curriculum reform, privatization of schools, business/school partnerships, and so forth, are all mentioned as solutions to the crisis.

But the problem may be deeper than these reform proposals assume. In this Bulletin, David Funk identifies a more fundamental problem—a lack of public awareness that education is at the heart of this society's economic, social, and cultural well-being. Scant research exists drawing connections between education and GNP or education and crime, and even less energy is expended on communicating the foundational value of education. Although everyone realizes education is important, the only way to establish a permanent, heightened commitment to education is to build an awareness of just how important it is.

This Bulletin places schools at the center of a "complex social matrix" and focuses on three primary shareholders in the educational investment—society at large, the individual student, and the economic sector. Each shareholder appeal, viewed separately, argues strongly for a new emphasis on education; taken as a whole, Funk provides convincing reasons

for rethinking current U.S. commitment to education.

Funk, a graduate research assistant in the University of Oregon's educational administration doctoral program, specializes in finance and economics in higher education. On leave during 1990-91, he is teaching political science at Ohio University while doing research on the legal and financial aspects of international educational institutions.

Contents

	Preface	iii
	Introduction	1
	The Education Crisis: When Average Is No Longer Average	2
	Education Is "In"	3
1.	**Public Education—A Shared Trust**	6
	Society as Shareholder: The Social Value of Education	7
	The Investor's Guide to Education	8
	The Social Chain and Its Weakest Link	14
	Education and the New Class Paradigm	17
	Is Your Neighbor Educated? Why You Should Care	18
	Needed: A Rational, Educated Citizenry	20
2.	**The Individual's Stake in Education**	24
	Education as Personal Investment	25
	The Education Ticket in a Changing World	26
	Impact of Illiteracy	30
3.	**Strong Education Is Sound Business**	32
	Private-Sector Panic over Workers' Skills	33
	Business Pays Twice for Education	35
	GPA an GNP	36
	Bad News and Good News from the Business Community	38
	Commitment to a Rebirth of Education	40
4.	**Educating for the Future**	41
	A New World Needs a New Graduate	41
	Mismatch between Skills and Workplace Needs	43
5.	**Needed: A New Spirit of Championing Education**	47
	Where Is Common Sense?	48
	Meager Federal Support for Research	48

Awakening to the Learning Crisis 49
The Costs of Continued Neglect 50

Bibliography **51**

Interviews **54**

Introduction

Why is education important? No question seems easier to answer. Put the question to any superintendent, principal, teacher, or student, past or present, and an eloquent response is expected. The importance of education, you ask? The ability to read, a higher salary and career opportunities, and the thinking skills important to appreciating philosophy and literature, answers the high school graduate. Quality education provides skilled, competent workers who have verbal and written communication skills and are able to learn in an evolving workplace, says the business person. We need a well-educated citizenry to build a democratic, progressive society, people who have a self-confidence born of knowledge, responds the social commentator. But *precisely* how important is education?

If we were somehow able to place a dollar value on a college degree, the average price tag of $24,000 that taxpayers pay for a four-year degree would look better than the $.04 per acre paid in the Louisiana purchase. Those analysts who have quantified a higher education degree find that in income return alone a college graduate equals a high school graduate's earnings plus the four-year cost of college in a mere 4.2 years (Hodgkinson 1989, Perry 1988). However, much of education's value is more difficult to quantify. A company introducing a new line of labor-saving machines can point to the labor-hours saved as a result; educators, however, necessarily must frame their mission in more abstract, philosophical terms.

Educators, it seems, possess faith that the general public understands the foundational role that schools play in society, only to be unpleasantly surprised at tax levy time. Other countries, notably Japan and Sweden, continually reaffirm their deep commitment to education through public service appeals. The U.S., on the other hand, does not actively attempt to raise public awareness of the connections between education and individual growth, economic prosperity, and social health.

The rationale for this Bulletin is that this nation's educators can no longer assume that the public will see these connections. People need to be

sold on the value of education. Therefore, this Bulletin advances a number of arguments for why the public should support education. The focus is on the three primary shareholders in the educational investment—society, the individual student, and the economic sector.

For educators, these various perspectives on education's value can serve as an encouraging reminder of the vital role they play in U.S. society. Members of the public, meanwhile, may find the following—often shocking—arguments for support of education reason to change the way they view education. Finally, school administrators might use these arguments to solidify local community support for schools.

The Education Crisis: When Average Is No Longer Average

This nation's traditionally strong public education system directly affects our social quality of life, individual opportunities, national economic competitiveness, and other dimensions of life. In fact, it is difficult to identify domains that education does not influence in some manner. Everyone agrees that education is valuable. Valuable enough, however, to spend more than $4,509 per pupil per academic year, the 1989 national average? Important enough to ensure that every eighteen-year-old has explored the profundity of Shakespeare? In a society that loves the bottom line, that seeks to quantify everything from air quality to personal wealth to happiness, education's value remains elusive. Just try, for instance, to attach a dollar value to the ability to read, which is usually acquired in elementary school, or to the tools necessary for participation in the democratic process, which are learned in high school.

Unfortunately, the true value of a quality education is often only recognized by its absence. And, regrettably, that value is inevitably defined by the tax dollar, which is hotly pursued by competing interests. Local law enforcement agencies gain new recruits when the crime rate increases. Aid for Dependent Children funding increases when the number of undernourished children becomes unconscionable, a national disgrace. Roads are built when the traffic flow exceeds the existing system's capacity. Education, however, remains a mysterious factor on society's priority scale. It has a long-term yield on investment that is inherently difficult to describe in quantifiable terms.

Not surprisingly, as we enter the 1990s, external economic threats are the current impetus behind a renewed focus on U.S. education. Like the 1950s, when the U.S. was awakened out of its educational complacency by the Soviet's launching of Sputnik, failing U.S. economic competitiveness in the international market has spurred new interest in our schools. The U.S. is

being economically blindsided by lack of educational preparation, declares a leading business magazine. And, again like the 1950s, an external challenge reminds us how sorely neglected education has become as a national priority.

Although economic competitiveness is only one byproduct of national educational quality, and a generally overemphasized indicator of education's value as well, it does present a tangible yardstick for comparing educational systems. The Japanese and West Germans, for instance, have 240- and 220-day school years, respectively, compared to the U.S.'s 180-day school requirement. Both Japan and West Germany place a comparatively high social importance on education and, not coincidentally, enjoy high per-capita productivity rates to match. The point is not lost on the U.S. business community: educational commitment leads to economic prosperity. Forty years of complacency, of overlooking education's vital importance to U.S. society, has created a crisis of work force ill-preparedness, illiteracy, lack of historical and geographical knowledge, and other failures.

Education Is 'In'

The titles of recent national publications reflect the educational "crisis." "Needed: Human Capital," declares a special 1988 *Business Week* supplement. "Endangered Species: Children of Promise" proclaims another national publication. "We are at war and the battleground is the classroom—and we're losing terribly," declares *Newsweek*. The concern—83 percent of Americans listed education as the nation's number one priority in a 1989 poll—is genuine and warranted. Meanwhile, many educators and other social analysts are left saying, "We told you so."

Ironically, the repetitiveness of the national outcry over work force preparedness and the plethora of national publications addressing the issue may be education's blessing in disguise; the attention presently focused on education's economic and social value may provide the impetus for a genuine long-term commitment to public education. Education's political and financial base of support within the community at large has slowly eroded. Now, thanks to the private sector's outcry, there is a reawakening to that importance.

A January 1988 survey by the Conference Board, a New York based business group, reported that 66 percent of 130 major corporations interviewed listed education as their top concern, up from 42 percent just two years earlier (MacDowell 1989). Business is "into" education because of work force preparedness concerns, the need to improve public images, and a growing recognition that failing schools today lead to substantial social costs tomorrow.

The public at large is equally concerned about education, but not necessarily because the new employee cannot read at a ninth-grade level. Rather, concern hits much closer to home—drug use and crime rates in the neighborhood, questions of whether anyone will be capable of paying for "my" Social Security—with the schools as scapegoat.

A study supported by the James S. McDonnell Foundation looked at the problems facing education in urban settings. The most important finding of the study was that an urban school system can be turned around only if the entire community unites on its behalf. The problems are too severe and intertwined—and entangled with broader community social and economic events—to be solved by the educational bureaucracy (Hill and others 1989). Education has a ripple effect on society that reaches every aspect of life; thus all citizens are shareholders in the educational investment. Overlooking or neglecting our mutual investment will prove costly in the long run.

If citizens as a whole are guilty of taking education for granted, educators are likewise to blame for not aggressively championing education's value. It is certainly not an easy task to define or communicate the value of education; there are, however, convincing indicators of education's value from myriad sources that, viewed collectively, present U.S. education as dangerously underemphasized. An appeal based on economic benefits of education is compelling yet narrow in scope. Another compelling argument views education as the foundation of democracy. The strategy taken in this Bulletin is an all-encompassing one—to present education as the basic building block of a sound social, economic, and democratic system. Speaking to an assembly of the nation's governors during a 1989 higher education summit, David Gardner, president of the University of California, appropriately placed the educational mission in its eschatological context:

> The debate must be recast within a broader framework that illuminates not only the education of our youth but also the clear need for all our people to learn their way through full and satisfying lives.... It is, in our view, essential that our people understand the human resources issue as an opportunity for all to lead a better life—not solely in material terms, but in matters of the spirit and of the values that bind us together. (Gardner and Chandler 1990)

In the midst of education's growing work force training responsibilities, our schools have been playing an expanded role in preventing or intervening in a variety of social ills. As a result, schools are becoming the centerpiece of the community as never before. The challenges facing schools have never been greater; our mutual responsibility and commitment have never more necessary.

Harold Hodgkinson, senior fellow of the American Council on Education and educational demographer, has spent the past decade detailing the

relationship between education and the social environment. He compares U.S. society to a human body, with education as the circulatory system; the body, he warns, is in poor health. Just as the heart depends on a strong digestive system for nourishment, so the schools rely on parents' and society's ability to provide students with food, clothes, and shelter. "It is painfully clear that a hungry, sick or homeless child is by definition a poor learner, yet schools usually have no linkage to health or housing organizations outside those run by the schools themselves" (Hodgkinson 1989).

Carrying the human body analogy further, just as all organs and systems in a body are interconnected, education is linked with and dependent on the whole social service sector. For example, says Hodgkinson, "it is through looking at transportation that we can see how linked our educational system is with other social services. If transportation goes down, so do education, health, and government." If education fails us, meanwhile, the effect could be likened to a deadly, but slowly progressing form of cancer.

There is no lack of expressed concern and reform agendas concerning education, but the first and most often neglected hurdle is to garner lasting support for education through increasing public awareness of education's value. Research into education's value is woefully inadequate, and what is understood about education's importance is rarely communicated to the public in organized, understandable terms. The first step for education reform in the 1990s, therefore, is to establish and then champion its value for the public, the individual, the business community, and, ultimately, our future generations.

A Lesson from The Oregon State System of Higher Education

The Oregon State System of Higher Education (OSSHE) provides a vivid example of the need to communicate the importance of education to the public. A supportive state legislature advised the OSSHE to solidify support among Oregon residents for increased higher education funding prior to legislative action. Unfortunately, a subsequent OSSHE commissioned survey of Oregon residents revealed that Oregonians considered higher education a relatively unimportant issue compared to other statewide concerns—only 23 percent of Oregonians identified it as a priority.

In a state suffering from insufficient funding of higher education, popular support is crucial. It is not surprising, therefore, that OSSHE is suddenly mobilizing a public relations effort. "The more information we get out, the better chance there is to link education to community, political, and business health," says Larry Large, vice-chancellor for public affairs. As people begin to recognize the strong relationship between education and economic well-being, they understand that they have a very real stake in this issue.

Source: Interview with Larry Large, Vice-Chancellor in Charge of Public Affairs

Chapter 1

Public Education—A Shared Trust

In 1987 Allen Bloom's *The Closing of the American Mind* set off a debate about the cultural and social value of higher education. His call for a liberal arts foundation reminds us that education touches and connects us all. Bloom's message is that we are losing our shared cultural and historical tradition, our knowledge of who and why we are, through neglect and disintegration of the traditional liberal arts canon of knowledge. In sum, we can no longer assume a collective body of knowledge that is known by all. The larger, often overlooked, message in Bloom's work is that education is the single shared activity that infuses, defines, delimits, and encompasses American life. U.S. education has been called "a seamless web of connections," an experience that touches all parts of the nation's life (Boyer 1987).

Part of the chord that Bloom struck is the recognition of our inherent social interdependency and our faith in education as the foundation of that dependency. In spite of North America's vaunted individualism and championing of autonomy of thought and action, our education, or lack of, reminds us of our connectedness. The connection between an unemployed sixteen-year-old high school dropout and a retired Social Security beneficiary is as immediate as a street corner mugging. Or, the connection is as involved as the international comparison between per capita productivity rates in the auto industry, which are a function of worker skills and educational background. Even though Americans prize self-sufficiency and self-reliance, our mutual economic and social dependency on education makes our schools a public trust. And that shared trust called public education is a national investment yielding both tangible and intangible returns.

Society as Shareholder: The Social Value of Education

A sense of mutual responsibility for education is not lost on the U.S. public; education has been steadily climbing our national priority list during the past decade. The business community, for one, has warned that poor educational preparedness will cause severe economic hardships. For instance, a 1988 Harris poll found 81 percent of the American people agreed with the statement "How well the United States educates its labor force to new skill levels will make a major difference in whether or not this country maintains a leading economic position in the world" (U.S. Department of Labor 1988). An even larger majority, 90 percent, endorsed the principle that "for the U.S. to become competitive, we must pay more for quality education and get tangible results" (Erhlich 1988).

> ***Old Saying:*** Education is a local activity, a state responsibility, and a national concern.
>
> ***New Wisdom:*** Education is everyone's concern, a state priority, and should be more of a national activity.

Does the Motive Matter?

Is it benevolence or enlightened self-interest that links the public and education? This question, which was raised when President Lynden Johnson proposed his Great Society policies of the 1960s, confronts support for education today. Fortunately, for the architects of the 1960s social programs and those currently championing investment in education, the appropriate answer is that it does not matter: investment in social or educational programs pays such overwhelming dividends later as to render the original motivation unimportant. If one person supports education out of fear of a decreasing national GNP and another does so because of a belief in education's spiritual and intellectual empowerment, both stand to profit handsomely from the investment.

A familiar refrain heard in 1960s Appalachia was "roads today, economic self-sufficiency tomorrow." The same enlightened self-interest symbolizes much of the emerging support for education. Derek Bok, president of Harvard University, puts it succinctly, "If you think education is expensive, try ignorance" (Doyle 1989).

The Wealth of Nations

Clearly, education plays a significant role in a society's health and prosperity, but getting a direct gauge on that relationship is the crucial insight needed today. Creation of the Appalachian Rural Transit Authority in the late 1960s produced significant and quantifiable economic development gains by the mid-1970s; education, due to its more subjective makeup, is less

conducive to such quantifiable proof of its value. Japan's minuscule crime rate is some function of its high quality, 240-day school year. Meanwhile, Sweden's world renowned social consciousness and general concern for human rights is reflective of a challenging twelve-year educational system that equals fourteen years of education in the U.S. (twelve years of general education plus two years of college training). Neither the Swedes nor the Japanese are any more capable of quantifying education's investment in social terms than are U.S. educators; however, both Japan and Sweden somehow understand and communicate education's importance to society as a whole.

Knowledge is the wealth of nations; our competitors know this and have taken it to heart. There is no other investment that matches education's social and economic return.

The Investor's Guide to Education

If a stock brokerage advertised a risk-free investment that returned five dollars after five years for every one dollar invested today, those rushing to invest would probably create a riot. Or, if a homeowner discovered that his house needed a new foundation, and he was aware that the problem would be ten times as expensive to fix in five years, he would start mixing the concrete immediately. How convenient it would be if we could calculate a standard rate of return on educational investment, similar to the above equations. What annual rate of return on tax investment might school tax levy campaigns be able to advertise? 25 percent? 50 percent?

Of course, education's social value is impossible to measure because of the breadth and complexity of its impact throughout society. Nevertheless, isolated indicators by themselves provide compelling reasons for investing in education. Consider, for instance, that the average college graduate's $12,000 to $16,000 investment in a four-year, public university degree will yield, on average, over $360,000 more in lifetime earnings than a high school graduate will earn (see sidebar on page 26).

The impact of nonsupport is equally dramatic: 82 percent of prisoners in the U.S. are high school dropouts, each of whom costs taxpayers roughly $32,000 a year to incarcerate. In contrast, the average per pupil annual cost for Head Start is only $2,650 a year—one-twelfth the cost of incarcerating a prisoner.

When considering the social benefits of educational investment that follow—whether they are GNP growth, lowered crime rates, improved social consciousness, or some other indicator—one can argue that each by itself validates the added tax dollar invested. But when these benefits are consid-

ered collectively, the importance of public commitment to education becomes overwhelming.

Pay Now, Save Later: The Head Start Success Story

Ever wonder if there was a social program that could claim virtually no foes? Look no farther than the twenty-five-year-old Head Start program. Established for poor and disadvantaged three-to five-year-olds, Head Start has almost unanimous political support. Based on the rationale that the earlier educational intervention occurs, the greater the rewards, Head Start has provided children with considerable gains that have multiplied through the educational process. And the long-term benefits are difficult to deny.

A study by the House Select Committee on Children, Youth, and Families compared Head Start children to a control group over a sixteen-year period (see sidebar on this page). When the children in the study reached age nineteen, the former Head Start children differed markedly from their control group companions (*Opportunities for Success: Cost-Effective Programs for Children* 1990). The one to two years in Head Start tended to produce an enduring dedication to learning among many of the Head Start children (Waldman 1990). Any concern over the 1989 $2,650 per pupil price tag of the program should be dispelled by looking at the projected savings in future costs. "A dollar invested in Head Start is about eight dollars in jails you don't need to build, drug detox centers you don't have to staff," says Hodgkinson (1987).

The report analyzed the cost-effectiveness of eight established federal programs, including youth employment and training, the Women, Infants and Children (WIC) program, and child immunization programs. Annual taxpayer savings ranged from two dollars to ten dollars for each dollar invested in the programs, with the Head Start program

HEAD START YOUTH VERSUS CONTROL GROUP AT AGE 19

	Head Start	*Control group*
Percent employed	59%	32%
High school graduates	67	49
Enrolled in college	38	21
Been arrested	31	51
Ever on welfare	18	32

Note: In a national study following Head Start and control group students over a sixteen-year period, the results demonstrate that Head Start significantly increases a student's chances of staying in school, gaining employment, and even seeking preventive health care. It is estimated that each of the $2,650 dollars spent annually per Head Start student annually saves the taxpayer $7 to $10 in later "rehabilitative" costs

Source: Hodgkinson (1987)

demonstrating one of the larger returns. "The report proves that early intervention with coordinated services is unquestionably the best chance we have to provide for the healthy development of our children at the lowest cost to society," said committee chairperson Rep. George Miller (D-Calif.).

Head Start, given the plethora of social science research supporting its success, is the perfect case study for the pay now, save later politics of educational support. Compared to the control group, 18 percent more of the Head Start students graduated from high school, 17 percent more enrolled in college, 20 percent fewer were arrested, and 14 percent fewer were welfare recipients.

In spite of the overwhelming evidence of future benefits, even Head Start has struggled for full support. Enrollment in Head Start reached 470,000 in 1989, up from 370,000 a decade ago, and yet only enough money was appropriated to accommodate approximately 35 percent of the children eligible to participate (Waldman 1990).

Business Considers Head Start Economic Development

Oregon Governor Neil Goldschmidt confronted a classic public investment dilemma in 1989—continue using windfall state lottery revenue to fund economic development, with immediate results in the economy, or increase funding for state Head Start programs. The surprising support for Head Start was swift, and from some surprising sources.

A letter to the editor in the January 22, 1990, Eugene *Register-Guard* stated, "Oregon can make no better investment in its long-term economic health than making sure that kids get started right. Nothing is, in the end, more important than the quality, reliability, skills, and work ethic of workers. If we could only count on one thing to carry us through good opportunities and bad times both, it would be the productivity and quality of our work force. The simple formula for long-term economic success is simple: The place with the best people wins. Oregon can be a winner if we invest in developing the skills of our citizens."

The letter was signed by Richard Reiten, president, Portland General Corp., with a list of other notable Oregon CEOs included.

The Costs of Playing Educational Catchup

Head Start, which demonstrates the value of "frontloading" resources toward those most at risk, is based on the simple rationale that it is better to pay little now than more later. And yet, claims Hodgkinson (1989), the U.S. spends far less on prevention programs such as Head Start than on less effective "cures," such as prison incarceration and drug rehabilitation. The following data, presented in 1987 to the House Select Committee on Children, Youth, and Families, further support the argument for frontloading education costs:

Pay one dollar now on	and save
Prenatal care for poor women	$3.38 in hospital care for low birthweight babies
Childhood immunization	$10 in later medical costs
Preschool education	$4.75 in special education, welfare, and prison costs
Remedial education	$6 in the cost of repeating a grade (Garland and others 1988)

Welfare payments are most often cited as an example of an ineffective "cure." There is a direct relationship between lack of educational attainment and welfare entitlement. The average family receiving federal general assistance, or welfare, is eligible for $4,300 a year.

Not surprisingly, well over half of the 1.3 billion welfare recipients never graduated from high school (Perry 1988). And while welfare payments graphically represent a cost linked to low educational achievement, general assistance payments notoriously underrepresent the social costs of a high school dropout. According to 1990 census figures, general assistance, or 'welfare," only constitutes from 3 to 5 percent of the total benefits provided to U.S. citizens with limited incomes, the majority of whom never graduated from high school. Aid for Dependent Children, Medicaid, housing assistance, the Work Incentive Program, and other programs form the other 95 percent of the social welfare budget. Money spent on welfare payments represents only the tip of the iceberg. Moreover, actual social welfare expenditures are only one-half of the picture: each welfare recipient represents the loss of a potential taxpayer.

Not every high school dropout, of course, is destined for welfare, but failure to graduate with high school equivalency skills predicts a bleak economic future. The average high school dropout can expect to make $683 a month in before-tax income,

Look at These Savings

The cost of Head Start per pupil for one year	$2,650
The projected lifetime social savings from funding one Head Start child for one full academic year	
savings on reduced public education cost	$7,005
savings in total welfare benefits not required	$22,490
savings in criminal justice costs	$4,252
bonus in increased lifetime tax payments	$6,495
Total benefits to the taxpaying public	$39,278

Source: *Opportunities for Success: Cost-Effective Programs for Children* (1990)

A Pitch from Congress

According to a 1990 bipartisan House select committee report on the cost-effectiveness of the Head Start program, if $16.6 billion were spent on Head Start programs to enroll100 percent of the eligible children, over $56 billion could be saved *annually*.

Source: *Opportunities for Success: Cost-Effective Programs for Children* (1990)

or $8,196 a year, which is below the Social Security Administration's defined poverty line for a single individual. And the average $683 income is only for those who are lucky enough to find work—15.4 percent of all U.S. high school dropouts are unemployed. The likelihood of a high school dropout being unemployed is twice that of a high school graduate, six times as likely as someone with some college credit.

And, just as with welfare costs, the complex social costs of an unemployed worker go well beyond lost productivity and social welfare outlays. An increased incidence of child abuse, alcoholism, crime, and psychological problems are among the social costs that are directly correlated with unemployment. Sar Levitan, noted labor economist and unemployment analyst, conservatively places the "cost" of one unemployed worker at $43,000 a year. Incredible? Less so when one considers not only the out-of-taxpayer-pocket expenses, but also the tax revenue the unemployed individual never produces (averaging roughly $8,000 a year) as well as other indirect costs that are associated with unemployment (Levitan and Belous 1987).

According to the 1980 U.S. Census Figures:

75 percent	of U.S. adults have completed high school
63.6 percent	of high school graduates begin postsecondary education within four years
17.4 percent	of all American adults have completed four years of college

Source: U.S. Department of Labor (1988)

Given that an unemployed worker carries a $43,000 price tag and that the majority of the unemployed never gained high school equivalency skills, we can better understand the societal impact of high school dropouts. Each high school dropout represents loss of potential productivity in a standard forty-year worklife. From 1960 to 1984, the real earnings of high school dropouts declined 40 percent, while the difference in earnings between high school dropouts and graduates increased from 30 to 60 percent (Carnevale and Johnston 1989).

Most tragic of all is that while there are fewer options open to high school dropouts, the ranks of the undereducated swell. Of the 3.8 million eighteen-year-old Americans in 1988, 700,000 had dropped out of school and another 700,000 could not read their diplomas (Perry 1988). These dropouts,

How Likely Is It That You Will Be Unemployed?

15.4 percent	one to four years of high school
8.1 percent	high school diploma
2.4 percent	four or more years of college

Source: U.S. Department of Labor (1988)

combined with students who are nonpermanent dropouts, annually result in 25 percent of U.S. youngsters failing to graduate with their high school class and represent a considerable loss of earning power and tax revenue. According to the National Alliance of Business (1989), total lifetime earnings lost for high school dropouts of the 1981 class alone will be $228 billion, with an estimated tax loss of $68.4 billion.

The Cost of Crime

A major cost associated with underinvestment in education is the cost of crime. The incarceration of a criminal eliminates revenue-producing opportunities that educational empowerment might once have preserved and creates a drain on society that can last for decades. The great tragedy is that education, or lack of, is the crucial variable of criminal activity.

"The correlation between high school dropout and prisoner rates is a trifle higher than the correlation between smoking and lung cancer," says Hodgkinson (1989). In one particularly startling study, Hodgkinson found a strong correlation between state high school graduation rates and per-capita prison populations. For instance, Minnesota has the country's highest graduation rate, 90.6 percent, and is ranked second lowest in prisoners per 100,000 population with 60. North Dakota, with the lowest per-capita crime rate in the country, has the third highest high school graduation rate. On the other end of the continuum, Florida has the nation's worst graduation rate and, not surprisingly, also has the highest per capita incarcerated population in the U.S.

In 1990, it cost from $32,000 to $36,000 annually to house and care for the average prisoner. There are about 664,000 men and women sitting in U.S. state and federal penitentiaries. The total price tag of $19 billion a year includes only the security and care of inmates ("U.S. Bureau of Justice Statistics: 1988"). Add on the annual prison construction and upkeep costs of $22 billion a year and suddenly the prison bill jumps to $45 billion a year (Garland and others 1988). The

The Average High School Dropout Can Expect To:

lose $325,000 in lifetime earnings compared to a high school graduate

cost the U.S. government $97,714 in lost tax revenue

Source: National Alliance of Business (1989)

$45 billion a year we spend imprisoning criminals is nearly half of the $98 billion a year taxpayers spend on higher education.

Unfortunately, criminology appears to be *the* growth area of the 1980s and 1990s. Federal and state prison populations virtually quadrupled from 180,000 in 1970 to the present 664,000 and show no sign of slowing down. And prison growth, if not bolstered from the ranks of the 700,000 youths who drop out of high school each year, is supported by a high recidivism rate among parolees. Forty percent of paroled prisoners commit a serious crime within one year of release; 63 percent within three years. What is more amazing is that 60 percent of ex-convicts, many of whom do not hold a GED diploma, can survive for even a year before resorting to criminal activity.

Even the $45 billion figure does not represent the total cost of criminal activity—the actual cost is incalculable. What is the cost of supporting and operating a police state that results from criminal activity? What are the insurance and property losses stemming from crime? Perhaps most importantly, what is the psychological and social cost of a burgeoning national crime rate?

As the burden of criminal activity grows, we can no longer afford to ignore the relationship between a lack of education and criminal activity. Not only are 82 percent of U.S. prisoners high school dropouts, according to Hodgkinson, but inmates who choose work over inhouse education programs are five times more likely to commit a second felony than inmates who take at least some school courses while incarcerated. Compared to the $32,000 to $36,000 a year it takes to incarcerate a felon, the tax dollars spent on inhouse educational programs are a bargain. "It is seven times more expensive to keep someone in the state pen in Pennsylvania than to have someone in Penn State," says Hodgkinson (1987).

The Social Chain and Its Weakest Link

When considering the complex relationships among crime, unemployment, and national GNP, inevitably one keeps returning to educational foundations. The more thoroughly one examines some aspect of society, the more one recognizes education's vital impact. As we enter the 1990s, however, schools are being asked to assume a central role in preventing or intervening in a wide range of social problems. "Schools are asked to not only prepare youth to become world citizens as well as productive workers, but must act as the sole source for cultural and value-based education plus serve as shelters and aid centers for the largest poverty age group in the U.S.," says Chet Bowers, University of Oregon professor of education. Education faces an incredible challenge, with serious consequences riding on its response,

and yet there is no other option.

Perhaps education's most critical challenge, and greatest opportunity, lies among those students at the lower end of the U.S. income scale. The immense costs associated with an increasingly undereducated underclass, coupled with skilled work force shortages, has made quality education imperative. "The U.S. is entering an era when neglect of the bottom half of its society threatens the welfare of the entire nation," declares *Business Week*. And in spite of different motivations, both the business and political sectors are expressing the same sentiment. "If there was ever a time to work at [race, class, and gender] issues, it's now, when there's a declining labor force," says Princeton sociologist Richard Nathan. He adds, "If America lets this opportunity pass, it will do so at its own social and economic peril" (Garland and others 1988).

Just a brief look at current demographic trends clarifies the gravity of the challenge that education, and society, faces. While the overall U.S. poverty rate is declining slightly, poverty for children ages 0-5 is increasing, to today's rate of 23 percent. Worse, over 33 percent of children residing in central cities are poor and 70 percent are from minority groups (Hodgkinson 1987). A total of 15 million school-age children live below the defined poverty line. The ramifications of such poverty are predictable. Students in central-city school districts are three times more likely to be charged with crimes, two times more likely to drop out of school (Hill and others 1989). Before a health clinic opened, 300 pregnancies occurred in a single year among the 1,000 girls at Chicago's DuSable High School (Perry 1988). Says Hodgkinson, "The 15 million children who live under the poverty line are, one can be quite sure, hungry quite often, do not have mothers with them in the afternoon, and have little room in the house for quiet studying" (1987).

While the poverty and decay in many of our urban school districts is unconscionable, it is the disproportionate impact on U.S. minorities that makes the current educational milieu explosive. Rising racial and class tensions mirror the growing gap between the wealthy and the poor. During the 1980s, social and economic status of U.S. blacks and Hispanics declined relative to the total population. What appeals to conscience could not accomplish in the 1960s and 1970s, however, economic realities may force in the 1990s.

Recognizing the costs associated with supporting a permanent underclass and the dire need for skilled workers, business and political sectors are mobilizing behind minority youth education. They realize that ignoring the realities of minority education and livelihood represents societal suicide. "There is a growing black underclass isolated from the nation's economic and social mainstream. This legion of chronically unemployed males and welfare mothers, concentrated in crime-ridden, desperately poor,

Comparing the Cost of Higher Education and Prison Incarceration (in billions of dollars)

	1980	1985
Total cost of criminal incarceration:	$22	$45
Taxpayer support for higher education	$62	$98

Source: U.S. Bureau of the Census (1990)

inner-city neighborhoods, numbers at least 1.5 million," says Perry (1988).

Changing U.S. demographics show, furthermore, that minority youth, with an average dropout rate 73 percent higher than white students, are also the fastest growing segment of the population:

> It is clear that what is coming toward the educational system is a group of children who will be poorer, more ethnically and linguistically diverse, and who will have more handicaps that will affect their learning. Most important, by around the year 2000, America will be a nation in which one of every three of us will be non-white. And minorities will cover a broader economic range than ever before, making avoidance or simplistic treatment of their educational needs a potential disaster. (Boyer 1987)

Preston Townley, president of the U.S. Business Conference Board, writes from a businessman's perspective but arrives at a similar position: "Of the three workers who cover my Social Security benefits, one of the three will be a non-white worker, and their job will likely require beyond a 14th grade education" ("Beyond Business/Education Partnerships" 1988). The prognosis for our urban schools is poor. In our larger cities—including Boston, Los Angeles, Chicago, and Detroit—the dropout rate ranges between 40 and 60 percent. The Hispanic dropout rate in New York City is 80 percent. The dropout rate for urban black students hovers around 40 percent (Bernstein 1988).

However, not all the news is bad. A quality education can empower traditionally underprivileged groups. The phenomenal success of the adopt-a-school and "I Have a Dream" programs, where inner-city youth are guaranteed funding for college if they graduate, reveals the empowerment that genuine commitment can produce among underprivileged groups.

Both South Carolina and Washington, D.C. suffered from terrible school systems; nonetheless, increased commitment to better education raised the state's and district's average SAT scores an amazing 50 and 70 points, respectively. The South Carolina and Washington, D.C. gains are admirable, and yet the action came only after each was in critical condition;

even then the response was an abbreviated remedy ("Even Kids Who Take SAT Can Read This" 1990). The nation can neither postpone addressing the educational plight of its minority population nor offer stopgap measures—if we fail on either count, the consequences will be severe.

Education and the New Class Paradigm

Often overlooked in the concern over education and race is education's impact on the nation's less overt, but growing, class tension. The relative decline of the middle class over the past decade is a result of many factors, not the least of which is educational achievement. The middle-class decline was affected by the 1980s tax policy, yet it also symbolized the disappearance of many blue-collar occupations that could be entered with a high school diploma and that for so long solidified the American middle class.

For college graduates, the 1980s were bountiful; for those with a high school degree or less, and lacking the "new world" skills, the past decade was a steady downward economic spiral. In comparison, the earning power of a college graduate increased a steady 11 percent annually during the 1980s, after adjusting for inflation, whereas the earning power of high school graduates and dropouts declined 13 percent and 34 percent, respectively (Nussbaum 1988). "For most, the economic expansion of the 1980s was a financial boon, yet the rising tide of prosperity left those without a high school diploma untouched," says John D. Kasarda, chair of North Carolina's Sociology Department. As he puts it, "They were not even on the boat" (Garland and others 1988).

The widening gap in U.S. income distribution is not only a product of taxation policy; it also stems from the inability of one-fifth of the population to compete in the modern workplace. Educational empowerment of one portion of the population has been accompanied by devaluation of another. The Japanese, West Germans, and Swedes have emphasized a highly literate work force from top to bottom, and their per capita GNP rates have outpaced the initial educational investment. The U.S., meanwhile, has relegated a percentage of its citizenry to menial physical labor and in the process forsaken their potential productivity.

The effects of socioeconomic fragmentation into the haves and the have nots are readily apparent, yet the less identifiable psychological effects—worker alienation, frustrated expectations, loss of control over one's destiny—are equally damaging. As the marketplace splinters into two distinct parts, a gap is created between jobs requiring higher-level thinking, communication, and technical skills and those asking for basic skills and

The Stagnant Middle Class

Family Income Change, 1975 to 1985

Under $10,000	26%
$10,000 to 19,999	11%
$20,000 to 34,999	4%
$35,000 to 49,999	9%
over $50,000	50%

Note: Percent increase in number of families in each income group, 1975-1985, after adjusting for inflation.

Source: Hodgkinson (1989)

providing subsistence level wages.

This division poses a serious threat to American society. New job-seekers compete for low paying jobs while higher skilled jobs go begging for want of qualified workers. "If we don't boost the skills of the bottom ranks of the work force, we'll have an even more divided society than we do now," writes Aaron Bernstein in *Business Week* (1988). The cleavage is well under way, and yet the movement is avoidable. Bolstering the skill levels of all students will not only empower the previously disenfranchised but will also result in increased financial windfalls for all due to a more robust economy. The alternative is to add to the more than forty-two million U.S. citizens currently living at or below the poverty line.

Is Your Neighbor Educated? Why You Should Care

On the one hand, the U.S. public is increasingly aware of the "crisis" in education and the economic necessity of educating a skilled work force for the twenty-first century; on the other hand, there appears to be a fundamental lack of commitment to education's continuing, less quantifiable social importance. If the economically driven "crisis" over work force preparedness was solved, would the current support for education quickly wane?

Quality of life is not just an economic equation, but a product of human interaction, consciousness, knowledge, and awareness, all of which are difficult to quantify. It cannot be empirically proved that education uplifts social consciousness. Unfortunately, an economic argument for support of education is the most easily grasped appeal available and the one most often exercised. It is easy to understand, for instance, that the public educational commitment that allowed Jonas Salk to progress through grade school and on through college was repaid a thousand times over when he invented the polio vaccination.

There is evidence that, alongside the work force preparedness crisis and the national outcry over illiteracy and dropout rates, an equally serious problem threatens the U.S. Educational achievement is in decline, as evidenced by falling high school achievement results and college entrance exams beginning in the mid-1970s. Concurrent with this is a drop in political

participation, historical awareness, and racial harmony. Our progressive consciousness, our shared historical, philosophical, and cultural canon, our national civic health, or whatever one wishes to call it, is in disarray.

Racism, sexism, xenophobic attitudes, and political nonparticipation are directly correlated with lack of educational achievement, and they are all increasing. "A well-formed education enables people to understand their role, their history, and to see through dysfunctional cultural traditions," says Chet Bowers, University of Oregon professor of education. Theodore Hesburgh, president of the University of Notre Dame, puts it slightly differently: "Education provides the tools to better understand the complex question of what it means to be human, and in turn empowers individuals to move themselves, and thus society, ever forward toward that ideal" (1981).

Bowers terms the so-called "social fabric" of society as the cultural and historical *biota* of human existence, and he sees evidence that the U.S. public is growing concerned about a perceived disintegration of that biota. "People desperately want a renewed sense of individual responsibility to one's community, but they are unable to abstract the source for change as education," says Bowers.

Another impact of an undereducated citizenry is a diminishing ability to competently function in a democracy. Noneconomic indicators of education's value are most generally represented through portrayals of U.S. students' ignorance of geography or history but rarely explain the significance of such findings. We are appalled when reading the results of studies such as Charles Finn and Diane Ravitch's *What Do Our 17-Year-Olds Know?* In a survey of 8,000 high school juniors nationwide, two out of three did not know in which half-century the Civil War was fought or in which the Declaration of Independence was signed. More than a third could not guess the outcome of the *Brown vs. Board of Education* Supreme Court decision or the meaning of "checks and balances." Nearly 30 percent failed to identify the two nations that were the principal enemies of the U.S. in World War II (Finn and Ravitch 1987). Beyond these headline-grabbing findings, however, the more crucial insight is why it is important that one's daughter, or neighbor, or colleague know what a presidential veto is or where Spain is located geographically.

A North Carolina State University sophomore student-athlete, when asked what country lies directly to the south of the United States, drew a blank. With a prompt from his tutor that Spanish is spoken in that country, the answer was immediate. "Is it Spain?"

Source: "Scorecard," *Sports Illustrated* (February 14, 1986)

Perhaps the most readily available indicator of a declining U.S. knowledge base among its young is the Scholastic Aptitude Test (SAT). Since its inception in the 1950s, the SAT has charted high school students' verbal and mathematical acumen, and the result is a rocky slide downward. Since its

historic highs in the 1960s, the SAT has hit a plateau in the combined 900 score range, which is more than 90 points below the historic highs. There appears to be a correlation between these statistics and an overemphasis on technical skills training and a deemphasis on liberal arts.

THE SCHOLASTIC APTITUDE TEST'S GREAT FALL

Year	*Verbal*	*Math*	*Total*
1951	496	473	969
1955	499	475	974
1960	495	472	967
1965	466	492	958
1970	460	488	948
1975	434	472	906
1980	424	466	884
1985	431	475	906
1988	428	476	904
1990	426	476	902

Source: U.S. Bureau of the Census (1990)

A liberal arts education develops our ability to connect such abstractions as the purpose of life; one's role within the community of humankind; the changing roles of love and hate; and what peace, justice, and freedom mean with the practical aspects of existence such as the meaning of a persidential veto. Such knowledge and awareness help to reveal the complex layers of human existence, each bit of knowledge somehow enriching our understanding of the human context. And we are continually challenged to revise our beliefs and commitments as we gain greater awareness of our world and our role within it.

The development of young minds in the liberal arts has been shortchanged as educators have had to concentrate limited resources on work force preparedness needs. "Millions of our college graduates even have been conditioned to take their opinions uncritically from the media, and completely lack their own critical, philosophical reasoning abilities," says Hesburgh (1981). Educators, adds Bowers, are so pressed to provide students with today's training needs that the more central tools for leading a meaningful, fulfilling life are neglected.

Needed: A Rational, Educated Citizenry

Knowledge enlarges and enriches us in addition to forming our world perspectives and political/social orientations. Plato's *The Republic,* for instance, asks, What is the Good or Best Life? Rousseau asks how human potential and liberty are realized. A more recent person of letters, Herbert Marcuse, queries: If we are not noncritical thinking, one-dimensional beings

Percentage of Voters Who Could Identify Their Own Position and Knew The Candidates' Stances on the Issue

Central America	17%
Government spending	50
Defense spending	39
Aid to minorities	27
Women's rights	27
Relations with Soviet Union	22
Jobs and standard of living	27

Note: Voters were asked in an exit poll if they understood selected important issues in the election and, if so, whether they could identify the candidates' positions on the same issues. The percentages above represent only people who were able to define their own position on an issue in question as well as the candidates' stances—in essence, the percent of voters who are minimally qualified to cast an informed vote.

Source: Abramson and others (1987)

controlled by our civilization, then what is our higher calling, and how do we achieve it?

According to the philosophical foundations of traditional democracy, the consideration of such questions is inherent to democratic participation. According to democratic theory, if we invest humankind with the responsibility for shaping its destiny, individuals will rise to their intellectual limits in the service of democracy. In due course, a traditional liberal education, which was once the main focus of U.S. higher education, assumed a basic premise: people are chiefly political beings, autonomous decision-making members of a larger republic, who collectively shape their shared destiny; education for economy or employment is secondary. The liberal arts aimed not to instruct so much as to build a context of knowledge enabling one to be a self-reliant, critically thinking participant in a democracy.

Some two hundred years after the U.S. Constitution was signed, we may have not only lost sight of the incredible opportunity and responsibility it grants, but we may have also lost the competency required to exercise such opportunity and responsibility in a democratic republic. It is not clear, furthermore, which failing is more dangerous. Why is it, for instance, that formation of political philosophy and citizenship tools is rarely, if ever, mentioned as a reason for supporting education. And what are the consequences when education no longer addresses what it means to be human or what the good life is? By not posing these questions, does the public abdicate control to those in power, uncritically accepting the decisions of a minority body? Finally, even if we haven't lost sight of democracy's importance, do our schools provide the prerequisites to democratic participation?

The foundation of liberal democratic government has always been a rational, well-educated public. John Stuart Mill's seminal work on freedom of expression, *On Liberty,* underscores the fundamental requirement of education in a democratic society. Mill's argument for democracy, and subsequent defense of free and open dialogue as inherent to the democratic process, is summarized in table 1.

Table 1: John Stuart Mill's Argument for Democracy

- Society is comprised of autonomous, free thinking individuals who have an inalienable right to self-governance.
- Open dialogue of all ideas and opinions provides a menu of diversity from which the public chooses the better options and, thus, a better world for themselves.
- Democracy is inherently progressive since the public will always choose the better course, the higher truth.

The assumption, of course, is that a democratic citizenry is educated and rational enough to collectively move toward a better world or society. Literacy would seem a basic qualification, and yet roughly 21 percent of eligible U.S. voters are functionally illiterate, according to Donna Lane, assistant commissioner of community colleges and state director of Adult Basic Education, Oregon State Department of Education. Literacy, moreover, is only the most basic requirement, as the voter in our complex society must possess complexity of thought and depth of understanding to assess issues. Voters are asked to decide for instance, whether we should rely on nuclear energy, whether higher education warrants increased taxpayer funding, and whether we should send aid to Central America.

Unfortunately, we find voters not only are woefully unfamiliar with the very issues they vote on, but are also lacking in basic skills necessary for informed democratic participation. A National Assessment of Educational Achievement survey found that only 49 percent of eighteen-year-olds who were eligible to vote were able to locate basic news information in a news article or almanac (Ehrlich and Garland 1988). In the November 1990 California

PERCENTAGE OF ELIGIBLE ELECTORATE WHO VOTED IN PRESIDENTIAL ELECTION

Year	*Percentage*
1960	62.8%
1964	61.9
1968	60.9
1972	55.5
1976	54.4
1980	53.9
1984	53.2
1988	51.6

Source: U.S. Bureau of the Census (1990)

elections, meanwhile, an adequately informed voter would need to comprehend California's 220-page "1990 Simplified Voters Guide." If voters are unable to discern what the point of a news article is, how can they manage the next step of forming a reasoned position on a given issue, let alone process 220 pages of basic candidate and issue information?

Voting patterns reflect the growing depoliticalization of the U.S. electorate; the number of eligible voters participating in elections has been declining since 1960. Apathy, certainly, is a cause of lower turnout. Along with decreasing voter turnouts is a directly corresponding decrease in voter understanding of issues, candidate platforms, and governmental operation. It is all too clear that lack of educational preparation not only has left many U.S. citizens unprepared for workplace demands but ill-equipped to efficaciously participate in a democracy. Which is the greater threat to American well-being and overall quality of life? David Kearns (1990), CEO of Xerox Corporation, states, "We can't pass our civilization on to the next generation unless that generation has the ability to learn it."

Chapter 2

The Individual's Stake in Education

> To be poorly educated is to be condemned to a life of unfilled potential. An individual that hopes to be ignorant and free, hopes for something that never was and never will be. (Thomas Jefferson)

Ask people what importance education has had in their lives and their responses usually emphasize the opportunities an education provides. Yes, earning power and intellectual stimulation are rewards of education, but both are part of that larger gift of personal freedom. Consider the spectrum of daily choices—economic, philosophical, political, social, and so forth—within which an illiterate person operates compared to that of a college graduate, and the notion of freedom gains substance. Value judgments aside, an illiterate adult enters the labor market, or the political arena, or a cocktail hour, with a restricted range of choices. At each advancing stage of education, personal expectations are raised through an ever-increasing sense of empowerment.

The ultimate proof of education's value in empowering individuals is evident in personal testimonials. "My college loans are undoubtedly the only loans that I'll gladly pay back. I can't even place a value on them now," said Hub Edwards, principal of Central Linn High School in Halsey, Oregon.

If education is considered essential to individual freedom by those possessing it, should it not then be an inalienable right for all? The intellectual and economic freedom of the person holding a Ph.D. contrasts with the limited options of the undereducated. Many countries, notably Germany, Great Britain, and the Scandinavian countries, have effectively instituted an

Economic and Educational Bill of Rights for their citizens. These bills guarantee as inalienable the right to quality housing, food, a higher education degree, and the opportunity to work. Given the suffering and anguish that illiteracy and undereducation bring, shouldn't an Educational Bill of Rights be a natural next step in the U.S.? In view of the discrepancy between the educational levels of Hispanic or black urban populations and those of middle and upper class white America, it cannot be successfully argued that all U.S. citizens are guaranteed a de facto educational bill of rights through public K-12 education.

What I Say to Freshmen

"As we approach the 21st century, education is absolutely the key to a person's future. It's not how strong you are anymore, but how informed, knowledgeable, and able to communicate. In terms of earning power one finds a real indicator of education's value. But it goes beyond earning power. Educated people will be able to respond to the whims of the workplace. As you look at making changes in life, you must respond through increasing skills—and to do that requires a strong base in education. Personally, my investment in education goes beyond dollars. The circle I have access to socially, professionally, and politically is entirely due to my education."

—Kent Hunsaker, Superintendent,
Bethel School District, Eugene

Education as Personal Investment

To the high school student pondering dropping out, who may not grasp the reduced intellectual and social horizons that result from such a decision, the average lost earning power speaks loudly: A dropout can expect to lose $196,000 in lifetime earnings by not finishing high school, forfeit $626,000 by not gaining a bachelor's degree. Clearly, educational advancement means money.

U.S. high schools and colleges offer the best rate of return on investment around, and their interest rate just keeps getting better. The decision to leave school is difficult to justify on economic terms at virtually any stage through graduate school, and is virtually indefensible prior to high school graduation. The cost of college tuition is far more palatable when one realizes that the average college graduate stands to make over $430,000 more than the typical high school graduate. Bear in mind, furthermore, that the average earnings figure for high school dropouts and graduates is artificially high given the specially skilled entrepreneurs, artists, entertainers, and others who proceeded directly into their professions without needing college experience.

The earning power of those obtaining college baccalaureate and graduate degrees has continued to increase since the 1950s. High school dropouts and graduates, meanwhile, have seen their economic fortunes

steadily worsen during the same period. From 1959 to the present, the earning power of high school dropouts decreased 26 percent and high school graduates 9 percent, while college graduates gained by 6 percent (in constant 1989 dollars) (Nussbaum 1988).

A report by the William T. Grant foundation, which examined individual income as a factor of educational attainment, found economic stratification to be directly linked to degree level. In 1980, the average annual income of a college graduate was 25 percent higher than that of the average high school graduate. Just six years later the difference had climbed to 49 percent (Perry 1988). The pursuit of post-high school education is an investment that continues to pay greater and greater dividends.

Comparison of Lifetime Earnings

Degree level obtained	*Avg monthly earnings*	*Avg lifetime earnings*	*Avg lifetime earnings advantage over a high school dropout*
Master's Degree	$2,281	$1,231,740	$863,000
Bachelor's Degree	1,841	994,140	626,000
Associate Degree	1,346	726,840	358,000
Vocational Diploma	1,219	658,260	290,000
High School Graduate	1,045	564,300	196,000
High School Dropout	683	368,820	—

Source: U.S. Bureau of the Census (1987)

The Education Ticket in a Changing World

The decline in earning power for high school dropouts and even those who complete high school illustrates the impact various market changes—increased technology, international competition, movement away from manufacturing, automation of the workplace—have on our unskilled labor force. Historically, the U.S. has provided just enough education to meet its work force needs; few examples exist where public dollars supported educational training that in any way appeared superfluous or not directly marketable. Unfortunately, a rapid escalation in required marketplace skills in the post-Vietnam-era economy has created a U.S. work force woefully underskilled to meet the new demands.

Micheal Harrington, author of *The Other America,* elucidates the economic shifts confronting the U.S. in his 1984 book *The New American Poverty*. Between 1959 and 1979 manufacturing-related jobs as a percentage of overall U.S. employment fell from 42 percent to 20.6 percent. The service sector and high tech industry are expected to fill the employment void. Unfortunately, says Harrington, even if the service and high tech sectors can sustain 75 percent of total U.S. employment by 1995, as most economists agree must occur, present worker skill levels are inadequate for the positions. The lack of computer literacy and communication skills (to list only two) are the most common deterrents for high school graduates hoping to enter the job market.

A Testimonial

"Without education, I'd probably be a stone mason, or a general contractor. A stone mason builds everything on a solid structure; with bricks and cement, you can see what you build and gain satisfaction in seeing something permanent take form. As an educator, I'm still building, but in education everything is built on the quicksand of school finance and the whims of public concern. When the public says no, what we thought would be a solid education for our students comes crashing down. What inevitably starts me building again, I guess, is the conviction, born of my own educational experience, that there is no calling more important."

—Charlie Sharps, Principal, Sunset Middle School, Coos Bay, Oregon

Sophisticated factory automation further illustrates the "new employment dynamics" operating today. Since 1975, 4 percent of all U.S. industrial layoffs have been due to robotics of some sort (Harrington 1984). Four percent may appear a trifling figure, but to Mon Valley (Monongahela, Pennsylvania) steel workers or Flint, Michigan autoworkers, who saw their whole communities disintegrate when dislocated workers were unable to transfer their skills to another field, the automation was a death sentence.

Where Would You Be Without Education?

"Ha, I'd still be living in Sweet Home, married, and working in the mill. No, check that, I'd be unemployed. Heck, the only difference between me and the people I grew up with who are still in Sweet Home is education.... [It] opened my economic, social, and emotional doors, it basically gave me the chance to travel and see the world. And when kids today ask whether they should take out loans to pay for college, I tell them, don't worry about it—They're the only worthwhile loans they'll ever take. My education is so fundamental to who I am there is no way I could place a dollar figure on its value."

—Hud Edwards, Principal, Central Linn High, Halsey, Oregon

The economic picture for manufacturing and traditionally skilled employment is discouraging; the impact on the individual relegated to an impoverished educational background is defeating. The job marketplace has changed, making a college degree a necessity if one is to successfully compete for many positions.

Increasing Demand for College Graduates

It was not until 1982 that the majority of U.S. high school seniors went on to higher education. In 1990, 60 percent of high school seniors enrolled in college. For the 34 percent of college students who eventually graduate, the higher education degree, traditionally viewed as an intellectual journey that exceeded occupational requirements, is losing its reputation as a superfluous venture. According to the Bureau of Labor Statistics, only 22 percent of all occupations in 1988 truly require a college degree. Over 50 percent of all jobs created between 1984 and the year 2000, however, will require education beyond high school (U.S. Department of Labor 1988). Driving this job growth are the professional, technical, and managerial jobs, which will account for 70 percent of employment growth by the end of the century and will demand college graduates.

No New Luddites

Luddite (lud'it), n. {said to be after Ned Lud, feeble-minded man who smashed two frames belonging to a Leicestershire employer (c. 1779)}, any of a group of workers in England between 1811 and 1816 who smashed new labor-saving textile machinery in protest against reduced wages and unemployment attributed to its introduction.

Just as a luddite's enemy is not the new machinery that replaced him, but rather the job dependency which his political and economic system generated, today's displaced workers' focus is best directed at developing progressive skills congruous with new economic trends.

To meet the demand, reports the Bureau of Labor Statistics, U.S. colleges and universities must produce 29 percent more graduates each year during the 1990s, or 286,000 more graduates every June at commencement (Pitsch 1990). Compounding the shortage, meanwhile, is the decrease in college-age students (those age 18-22) that is expected to continue until 1998.

Someone acutely aware of changing work force needs is Robert Allen, chairman of AT&T. Writing in *The Wall Street Journal*, Allen argues that demographics and technology foretell a distinctly different work force as early as the 1990s. "Consider that by century's end, four out of five jobs will require more than a high-school education," says Allen. "A high-school diploma will entitle its holder only to compete with dropouts—whose numbers swell by 3,800 each day—for low-paying, part-time or temporary jobs in the service sector" (Allen 1989). For individuals who want to control their future rather than be at the mercy of the marketplace, insight into the escalating impact of educational training is crucial.

The belief that high school completion symbolizes acceptable educational achievement and employability is being eroded by this changing work world. An adult marching into the 1950s work force had the reading, writing, and mathematical skills to match the occupational challenges of the day.

Technological upgrading, job growth in high-skill occupations, and new "bottom up" management styles in the workplace of the 1990s have upped the educational ante for workers to the point where skills are required today that did not exist twenty years ago. The demand is for not only better educated graduates but for graduates who possess different skills.

Changing Skill Requirements

Sue Berryman (1989) argues that business will soon request a whole new cognitive framework of higher education instruction. Future graduates "will have to possess higher order thinking skills, teamwork and conflict resolution skills, and know how to learn," says Berryman. In the Business-Higher Education Forum's 1990 statement to the National Governors Association, the point was made more bluntly: "Work skill requirements, which aren't being met today, are going to rise as well as fundamentally change tomorrow" (Gardner and Chandler 1990).

The relatively static U.S. educational curriculum, however, stands in stark contrast to these new skills requirements. New economic realities should have an impact on curriculum.

Oregon's own Tektronix Corporation illustrates the schism between workplace requirements and, in this case, Oregon's system of higher education. In 1984, Tektronix attempted to shift to a flexible manufacturing system only to find that its employees lacked the critical thinking, team building, and negotiating skills necessary for such a move. Their answer was to establish a project through Portland Community College to deliver the needed skills (U.S. Department of Labor 1988).

A 1988 analysis by the U.S. Bureau of Labor Statistics seeks to quantify the changing work force dynamics that companies such as Tektronix

Desperately Seeking College Graduates

Who wants to be a college president these days? Labor economists tell you the work force needs 29 percent more college graduates nationwide every year until 2000. Meanwhile, the pool of 17-year-olds has been down since the early 1980s and will not reverse itself until the late 1990s. More difficult yet, colleges and universities are hearing increasing criticism for decreasing academic standards, and are pressured to tighten graduation requirements. To many, the recommended solutions to produce more college-educated workers are as dire as the present demand. A national "educational quality of the workforce" report through Cornell University's Center for Advanced Human Resource Studies recommends the following:

- Change immigration law to allow an additional 100,000 college educated immigrants into the U.S. each year.
- Expand Advanced Placement programs and encourage college students to take courses during the summer to expedite attainment of a degree.
- Encourage adults to return to college to pursue a degree.
- Keep public tuition low.
- Bolster dropout prevention programs in high schools.

Adapted from Pitsch (1990)

already perceive. According to the study, 86 percent of U.S. jobs requiring ever-changing professional, technical, or managerial skills are expanding, whereas 93 percent of blue-collar jobs are contracting. Projections of employment needs in the year 2000, furthermore, find that occupations requiring "new century" college and university training will increase by 30 percent, whereas occupations requiring just a high school diploma will increase only 17 percent. More striking yet, future occupations are expected to move the median years of schooling required from the current 12.8 to 13.5 by the year 2000 (Lund 1988).

Where does the individual fit into this picture? Possibly not at all without a personal commitment to education. On the one hand, it is reassuring that public- and private-sector concern is being focused on education, yet no external influence supersedes the self-determination the students can, and must, exert over their own education to secure a sound future.

Federal Prisoners Must Pass Twelfth Grade to Receive Parole

The U.S. Justice Department soon will require all federal prisoners to attend classes until they can read at a twelfth-grade level and complete a high school equivalency degree. "For those who cannot read, competing in the legitimate work world is impossible," says Attorney General Dick Thornburgh. "We live in a complex world, and the pressure of competition for good-paying jobs, and indeed success in virtually every aspect of modern life, hinges on literacy," he added.

About 40 percent of prisoners nationwide test at below the sixth-grade level, and criminologists know only too well the correlation between poor education skills and crime. For one, there is a direct relationship between literacy levels and an individual's likelihood of involvement in substance abuse. "Many former prisoners who cannot read turn to drug abuse as an escape, or else come to rely on selling drugs to survive," says Thornburgh.

If students refuse to attend the classes, they will be consigned to the lowest paying prison jobs, and they could be subject to disciplinary actions, according to the Justice Department.

Adapted from Associated Press (October 18, 1990)

Impact of Illiteracy

The U.S. illiteracy rate demonstrates our failure in the public education shared trust. The ability to read is so fundamental that many nations worldwide consider it a de facto human right. Japan, which already has a 98 percent literacy rate, recently made full literacy (equivalent to our ninth grade) a legal requirement of any prisoner seeking parole. Western Europe, meanwhile, with its high literacy rates, has demonstrated that full literacy is an attainable goal.

In the U.S., 700,000 people graduate annually from our high schools who are unable to read or write at the eighth-grade, or functionally literate, level. Within the total U.S. population, anywhere from 55 to 73 million people are considered functionally illiterate. Worse yet, an estimated 33 million lack a fourth-grade equivalency as evidenced by their inability to

perform everyday life skills such as writing notes to a child's teacher.

The economic consequences of illiteracy are obvious. The personal anguish and suffering, however, are the more unconscionable result. "For many of our non-literate beginning students, the world is a mysterious, foreign, intimidating place," says Donna Lane, assistant commissioner of community colleges and state director of adult basic education in Oregon. For an adult student who attains literacy, the enormity of the personal liberation cannot be overstated. The ability to read "is life-altering, it is the great equalizer in our society, which allows empowered people to gain control of their lives," says Lane. Most amazing is the physical transformation learning

U.S. and Oregon Figures on Adult Literacy

U.S.	*Oregon*	
13%	8%	Less than fourth-grade equivalency, can't write notes to child's teacher, perform everyday life skills, or perform everyday functions as citizens.
25%	12.5%	Less than eighth-grade education. People achieving beyond an eighth-grade education are defined as "functionally literate."
34%	26%	Lack a high school diploma or equivalent

Source: Donna Lane, Assistant Commissioner of Community Colleges and State Director of Adult Basic Education, Oregon State Department of Higher Education

generates. It only takes a couple of classes for students to start feeling better about themselves, to where they change in appearance, smile more, dress upbeat, wear their hair differently, explains Lane. The empowerment education brings often leads to an extreme improvement, where a student's excitement about learning may produce a two-grade-level increase in just one term.

The life-altering potential education holds is not lost on many of our adult illiterates; waiting lists for adult basic education (ABE) classes average 35 percent of present enrollment, with urban waiting lists even longer. It is worth noting that estimates show the current waiting lists for programs funded by the Adult Basic Education Act could be eliminated at a cost of $64 million per year. In spite of the interest in adult basic education, current literacy programs now serve only 1 to 2 percent of eligible adults due to lack of public awareness as well as ingrained adult fears of education in general. "People fight back at the idea that they lack basic skills," says Lane; "a great step for ABE students is admitting that they missed something wonderful in education."

Chapter 3

Strong Education Is Sound Business

Nowhere in U.S. society, it seems, is the lack of an education more immediately felt than in the business world. A plethora of business-initiated newspaper articles, national publications, and special reports on education published late in the 1980s shout a collective "Help!"

Business Week consecutively published two special report inserts in 1989 titled "Human Capital: The Decline of America's Work Force" and "Endangered Species—Children of Promise: Is American Education on a Collision Course with the Future?"

Xerox CEO David Kearns, an outspoken critic of the schools, is so concerned about the integrity of education that he coauthored, with Denis Doyle, *Winning the Brain Race: A Bold Plan to Make Our Schools Competitive.*

Robert Allen, chairman of AT&T, pleads for renewed emphasis on education in a *Wall Street Journal* article, "It Pays to Invest in Tomorrow's Work Force."

The U.S. Departments of Labor, Commerce, and Education collaborated on a 1988 joint initiative called *Building a Quality Workforce.* The titles and content of these works are sobering—U.S. economic competitiveness is threatened by a failing educational system.

The concern that the U.S. educational system is stagnant is fueled by an alarming dropout rate, high illiteracy, and declining teacher morale. Yet amidst the low achievement scores, incidences of educational gaffes, and disappointing comparisons with students internationally, there exists an overriding sense in the business community not of failure but of missed opportunity due to neglect. This neglect stems from a lack of adequate public support for and involvement in education.

The consequent loss of U.S. public education's status as a global role model can serve educators as the rallying force for inducing the public to increase its support of education. This support is crucial to confronting complacent neglect as well as to preparing the educational system to meet the increasing demands of a rapidly changing world.

Private-Sector Panic over Workers' Skills

Private-sector commitment to education is motivated, to some degree, by charitable and public relations windfall. But the primary force driving private-sector involvement is nothing less than economic survival: companies that cannot hire enough skilled workers now realize they must do something to save the public schools. The growth in personnel departments nationwide is not the result of economic prosperity, but has come about because companies must work overtime to fill their baseline needs.

In a 1989 national survey of employers, two-thirds of those consulted assessed the current pool of entry-level applicants as insufficiently prepared in basic skills. Says Louis Gerstner, chairman and CEO, RJR Nabisco Inc., "We face a shortage of workers now. It's not a next decade problem" (Gerstner 1990). Motorola finds that only 20 percent of its applicants can pass a simple seventh-grade English comprehension or fifth-grade math test. Motorola also spends 60 percent of its employee training budget on remedial training in basic math and reading skills. "We have found to our disappointment that many workers are not prepared to operate

History Anyone?

In the 1850s, many world business leaders were searching for the secret to U.S. business success. Was it due to a culture that emphasizes personal discipline? Analytical problem-solving giftedness? A strong family structure? The U.S. was quickly gaining on Britain's position as the number one world economic power and the British dispatched delegations to study the "American system of manufacture." To their disappointment, they did not find mysterious management techniques or revolutionary manufacturing processes; rather, they found a remarkably high literacy rate of 90 percent among the free population, with an amazing 95 percent of New England adults able to read and write. In Britain at the time, only 66 percent of the population was literate.

Today, it is not the U.S.'s secret to business success that is intriguing world business leaders, but Japan's. U.S. pilgrimages to Tokyo today find the same roots of economic success that the British discovered 140 years ago on U.S. soil—education. Japan's strong educational system, which is in session 240 days a year, yields a national functional literacy rate above 95 percent, compared to a rate of 75 percent in the U.S. More importantly, Japan's high literacy rate is just one aspect of quality educational training that leads to economic competitiveness.

"Much of the success of Japan stems from the fact that its blue-collar workers can interpret advanced mathematics, read complex engineering blueprints, and perform sophisticated tasks on the factory floor far better than blue collars in the US," says Merry White, author of *The Japanese Educational Challenge.*

Adapted from Stephen S. Cohen and John Zysman (1988) and an interview with Frederick Edelstein

the factory of the present, much less of the future," says Carlton Braun, vice-president of Motorola, Inc.

In Oregon, Weyerhauser finds it must go to great lengths just to fill manual labor positions. "We need a very large pool of applicants just to get the roughly 4 out of 100 who can pass our (GATBY) test," says Karen Gardner, personnel manager at Weyerhauser's Springfield plant. Although the majority of positions involve manual lumber processing, strong communication skills are still requisite and are the primary stumbling block for prospective employees.

Research within our educational system confirms the business community's fear over the quality of U.S. education. In the areas of biology, chemistry, and physics, U.S. high school seniors scored last, eleventh, and ninth, respectively, among students from thirteen developed countries. Equally alarming are the poor scores in reading, writing, and communication abilities as measured by standardized test scores.

> "If I've learned one thing, it's that the answer to virtually all our national problems—from international competitiveness to improving our standard of living to the very security of our nation—ultimately rests on one word... education."
>
> —Robert Kirkpatrick, Chairman, CIGNA (Doyle 1989)

The results are predictable: 84 percent of the 23,000 people who took the New York Telephone entry-level exam failed it in 1988 (Perry 1988). A 1987 survey of 5,000 high school seniors in eight major cities produced equally dismal results: four out of five could not read a bus schedule or summarize the main point in a newspaper article. In Boston, 39 percent couldn't name the six New England states. In Dallas, 25 percent couldn't identify the country that borders the U.S. to the south (Kearns 1990).

> "I have been experience at cleaning house I've also work at a pool be for I love keeping thing neat organized and clean. Im very social Ill get to know peopl really fast (sic)."
>
> Thirty-five percent of the nation's eleventh graders write at or below this level.
>
> Source: Erhlich (1988)

Fortune magazine, in a special report entitled "Saving the Schools," compares today's educational crisis to the grim days of 1941 after Pearl Harbor, when "American troops found themselves still living in 1919, training for war with wooden rifles." This oft-repeated military analogy is fitting, if only to demonstrate a key thrust behind private-sector concern—today's battle is fought on economic turf, and our army is not up to the task. "The U.S. is virtually outside the range of science achievement in developed countries....this is a problem which could turn the U.S. from the most affluent into a less developed country," says eminent sociologist James Coleman (Doyle 1989).

Washington Post columnist David Broder cautions that "if our poor education and training record goes unremedied for another decade, this

nation is doomed to decline. We simply cannot survive as a first-class economic power in the information age with minimal capacity to acquire and communicate facts, information, concepts, or ideas" (1990). Meanwhile, business finds itself increasingly bearing the burden of *remedially* training its own employees, a cost the American Society for Training and Development (ASTD) conservatively estimates at $30 billion annually (Johnston 1989).

In a 1988 report from the Oregon Business Council, a direct link was found between the poorly funded computing facilities within Oregon's system of higher education and the lack of requisite computing skills of Oregon college graduates that were necessary to gain entry-level employment (personal interview, Large 1990).

Business Pays Twice for Education

The message is clear: If you don't provide adequate training and skills the first time, it will result in increased costs later. The lack of qualified applicants and resulting retraining woes are familiar to anyone forced to improve an inadequate system. The true cost of education is not merely the $310 billion paid in taxes for public education annually, but also the added expense the private sector incurs in raising the skill level of workers.

Estimates of the costs incurred by the private sector for retraining and inhouse educational programs fluctuate greatly, but most forecasts are not encouraging. The Houston Institute, an economic think tank, conservatively estimates that fifty million workers will have to be trained or retrained in the next twelve years, including twenty-one million new entrants and thirty million current workers. The institute's analysis includes only fundamental verbal, writing, and communication skills, not instructing workers in the use of new technology (Bernstein 1988).

How to Save $1 Million

Many researchers and economists say the lack of basic literacy and mathematical skills has caused costly mistakes, reduced productivity, increased the need for supervision, and led to accidents. For example, the Metal Fab Corporation, a manufacturer of bellows based in Ormond Beach, Florida, estimates that it could save up to $1.2 million a year if its employees had stronger mathematical and reading skills. Because some employees have trouble measuring, the company's level of wasted material is higher than it should be. In addition, workers too often have trouble reading blueprints, forcing the plant to redo orders and pay overtime.

Source: Fiske (1988)

Education as a corporate activity has become big business. Estimates run from 50 to 200 billion dollars per year. On-the-job training and the salaries and wages of individuals in training are rarely included in the estimates. In 1983, about 213,000 people were employed full time and 786,000 were employed part time as educational trainers in U.S. corporations. Sixty percent of companies with more than fifty employees have a trainer. Incredibly,

the training budgets (conservatively estimated at $40 billion) and the number of students (approximately eight million) involved in programs supported by American corporations are almost equal to those for all four-year colleges and graduate schools in the country (Houston 1987).

IBM, meanwhile, learned a hard lesson about the unexpected cost of basic skills training. IBM installed millions of dollars worth of state-of-the-art computer equipment in its Burlington, Vermont, factory on the assumption that its employees had the basic high school algebra background needed to become computer capable. The computer training was expected and budgeted for; the cost of implementing an inhouse algebra program for thousands of workers was not. All told, IBM spends one billion dollars per year on direct education costs: teachers' salaries, texts, student meals, and lodging. When wages and salaries are included, the sum reaches two billion dollars (Doyle 1989).

The immense increase in the employee recruiting and hiring process in recent years is also an unexpected, hidden cost of inadequate educational preparation. Chemical Bank of New York must interview forty applicants simply to find one who can successfully be trained as a teller (Nussbaum 1988). New York Telephone, another large employer looking for basic skills in potential employees, had to test 60,000 applicants in order to hire 3,000 employees (Bernstein 1988).

Xerox has begun training the employees of its suppliers in order to increase product quality. It reduced its suppliers from over 3,000 to 350 and raised the tolerance standards for parts it buys from them. Xerox will initially train 100 of its 350 suppliers, at a cost of $1.5 million. "Training suppliers has become a permanent part of the way we do business," declared Robert Fletcher, manager of material quality assurance (Bernstein 1988).

GPA and GNP

The importance of investment throughout the educational process is emphasized by world per-capita GNP rates, which directly correlate with per-capita educational attainment levels. Japan's strong commitment to education stands as a contemporary illustration of education's economic windfall. James Hunt, former governor of North Carolina, testifying before Congress in 1989, said, "Japan has made a reality of high-quality mass education, and has the most well-trained work force in the world. In the modern, post-industrial economy, the secret of economic success is what a people know and are able to do" (Pennar 1988).

Economic growth results from an amalgamation of factors such as human and machine capital, technological innovation, and management

Comparisons across Countries

	School Days	Illiteracy Rate	High School Graduation Rate	Per Capita GNP
United States	180	25%	74%	$18,520
West Germany	220	12%	89%	$18,450
Japan	240	2-3%	94%	$19,410

Source: Doyle (1989) and U.S. Bureau of the Census (1990)

Author's Note: Distorting the above per-capita figures is the U.S.'s immense national treasure of natural resources. If one could control for the U.S.'s natural advantages (coal, oil, gas, timber, and so forth) over Japan and West Germany and somehow link per-capita GNP strictly to worker productivity, the above correlation between education and per-capita GNP would be more pronounced.

ability. During the 1970s and 1980s, U.S. industrial policy emphasized investment in equipment and technology over outlays for human capital. However, it is becoming increasingly clear that people, not machines, are the crucial factor behind GNP. Unfortunately, it is hard to quantify education's value in workplace productivity, or national GNP, those bottom-line numbers that the business sector so covets. Adding a computer system will decrease the number of employee hours, which will pay off the computing system and result in company profits.

But how do you arrive at a bottom-line analysis of education's value? Economist Edward Dennison, an expert in growth economics, makes an attempt. Using highly sophisticated research techniques, Dennison found that the annual U.S. GNP growth rate between 1948 and 1982, which averaged 3.4 percent, was a result of the following:

50% technological innovation and increased know-how
33% increased U.S. educational level
15% capital equipment increases
2% other

(Pennar 1988)

These findings are surprising because we rarely link GNP growth rates to improvements in our schools; rather, we look for explanations for productivity everywhere except in the area of education. Enthusiastic teaching, computers in classrooms, and strong school programs rarely get credit for

economic improvement, but that is changing. Capital investment continues to outpace educational funding, yet the largest cause of GNP growth—technological innovation and increased know-how—is itself a product of and dependent on a strong educational foundation.

Bad News and Good News from the Business Community

The bad news is that business leaders are sending educators a worrisome message—that work force preparedness needs are not being met. It is unfortunate that a crisis in work force preparedness is necessary to garner the private sector's support for education.

The good news is that business cares enough to become part of the solution. Private-sector support of education and its recognition of the crisis in education have renewed appreciation of education's importance as the foundation of economic and social success and are responsible for the growing collaboration between the private sector and the schools.

"We need the business community to be involved in schools, flat out.... No, we don't want them to tell us how to run our schools. But we do want their suggestions and input. It has been too long that we have gone our separate ways," says Keith Gieger, president of the National Education Association (Doyle 1989). In the 1990s, private-sector partnerships in education symbolize a new recognition that economic needs and skill requirements, social issues, and education operate in an intricate, mutually dependent web of influence.

Enlightened Economic Self-Interest

The private sector's interest in the opportunities and benefits of partnerships is understandably motivated by economic competitiveness. In spite of corporate America's tendency to focus on short-term solutions to long-term problems, there is growing recognition of a need for educational preparation—that an investment in education now will prevent much greater costs later.

The price tag for lost productivity due to poorly trained workers costs businesses $30 billion a year, and this figure does not include the myriad social costs stemming from poor training and inadequate education, according to Anthony Carnevale, chief economist of the American Society for Training and Development (Lund 1988).

Private-sector criticism of public education is not empty rhetoric; it is backed by financial commitment and a willingness to support its vested interest. Corporate America is no longer content to sit on the sidelines and hope the education professionals can stock the work force pipeline. The

number of school/business partnerships has grown from 42,200 in 1983-84 to 140,000 in 1987-88, with the number of schools participating jumping from 17 to 40 percent. Overall corporate dollar contributions, meanwhile, have risen 51 percent (O'Connell 1988).

Most importantly, it appears that business, as well as society at large, is slowly realizing that short-term, stopgap measures are not the answer. Our renewed commitment to improving the educational system will not immediately negate the effect of long-term neglect. We may not realize results for fifteen to twenty years. "It took us years to develop Tartar-Control Crest, and over 20 years to make a profit on our investment. So we, better than anyone, understand the economics of long term investment in early childhood programs," says Owen B. Butler, retired chairman of Proctor and Gamble. "The best way for business to invest in educating the disadvantaged is to reach them early. By age 5, they're already so deprived they can't benefit from schooling," he adds (Erhlich 1988).

South Carolina and the Education Improvement Act

South Carolina had a desperate need for better-educated workers in 1984. Simply put, their lifeline was at stake, says Montez Martin, president of Montez Real Estate in Charleston. Companies had serious reservations about expanding in the state. Finally, a one-cent sales tax was enacted to bolster the state's educational system. Since the act passed, the combined SAT scores have risen 35 points to 838, the largest increase in the nation. Teachers' salaries have risen 48 percent to $24,000 and are now competitive.

Source: Perry (1988)

Proliferation of Partnerships

This growing acknowledgment of the relationship between education and fiscal investment brings with it a passion for collaborative initiatives. The new attitude, welcomed by educators, is expressed by Gary A. Frizzell, the educational relations manager for Pacific Northwest Bell Telephone: "Business is the user of education's product—students—and it ought to replenish what it uses" (Pennar 1988).

The 1990 National Symposium on Partnerships in Education focused on the necessity of business support for education. "Business must do more to help schools...or we will confront a generation of employees who understand little of the science and technology that already drives our economy," said symposium keynote speaker Richard Morrow, chairman of Amoco Corporation ("Business Must Do More" 1989). The same month that Morrow called for private-sector commitment, *Business Week* published its extensive supplement endorsed throughout the private-sector entitled

"Needed: Human Capital," which set an optimistic tone for business involvement in education.

Concern over work force preparedness has reached such a critical level that both the U.S. Chamber of Commerce and the National Alliance of Business (NAB) have launched partnership resource centers to forge a national education/business link. The Business Roundtable, an example of one NAB creation, is comprised of the nation's top corporate leaders who are paired with each of the fifty governors to complete ten-year plans for education reform and restructuring. The architect of the Chamber of Commerce initiative, Austin Burke, provides a simple reason for the energy currently behind education/business collaboration: the U.S. "is experiencing a classic mismatch of jobs available and the skills of workers...education and business must work much more closely together" (Walker 1990).

Commitment to a Rebirth of Education

Our schools have changed dramatically over the past thirty to forty years, and the fervor behind commitment to meet the challenges of the 1990s is reminiscent of the energy that drove educational reform during the 1950s. Then, as now, people "woke up" to discover a crisis of complacent neglect. Schools did not suddenly deteriorate in the last five years, but rather have suffered from lack of significant outside energy during the twenty-five-year period since the Great Society climate of the 1960s.

The negative critique of U.S. education is generally perceived by business as well as society at large as an indictment of the U.S. citizenry's collective failure as stakeholders in education, not merely as an attack on educators. The growing realization of failed guardianship of public education by business leaders and society at large is encouraging. And educators, by avoiding defensiveness through engaging in dialogue that encourages cross-community responsibility and collective response, can better induce the public to increase support of and become more involved in the rebirth of our educational system.

Chapter 4

Educating for the Future

Unlike the 1950s, when a high school degree represented an acceptable level of educational attainment, technological advances, job growth in high-skill occupations, and new "bottom up" management styles practiced in the workplace of the 1990s require more educational preparation for workers. Consider that in 1950 thirty office personnel were required to perform the job one secretary in a modern office can accomplish today; the number of jobs decreases while the technological demands per position increase. According to the Bureau of Labor Statistics, only 22 percent of all occupations in 1988 required a college degree. Over 50 percent of all jobs created between 1984 and the year 2000, however, will require some type of post-high school training (U.S. Department of Labor 1988).

A New World Needs a New Graduate

Sue Berryman, director of the Institute on Economic Change and the Economy at Teacher's College, Columbia University, has examined the educational skills/job requirements connection in detail. In the *NASSP Bulletin,* Berryman (1989) argues that fundamental curriculum changes are required to prepare students for the workplaces of the immediate future. "An entirely new educational vocabulary and accountability system based on symbolic rather than observational learning is needed," she says. More specifically, she adds, economic changes—notably in industry's use of manufacturing techniques—demand higher-order thinking skills, knowing how to learn, and teamwork and conflict resolution skills. Add to that list the growing need for international awareness, language abilities, and computer literacy, and it is obvious today's students face a new skills test.

By the year 2000, for instance, computer literacy will be mandatory in

most fields. The consequence to blue collar workers is that their basic literacy skills will have to be much stronger than they are today. More of them will be dealing with customers and will have to possess better communications skills and be able to translate their technical knowledge into language that will be understood by laymen, according to Gardner.

Not even floor-level steel workers are exempt. "Over the past six years, USS has reduced the manhours required to produce and finish a ton of steel from 11 to 4," according to the USX Corporation. "This has required the combining of responsibilities and functions of filling positions with high-performing, more versatile and flexible persons. It has also required a much greater responsibility and involvement in decision making from the blue-collar work force."

What's in a Job, Anyhow?

Today the role of reading in the workplace is a complicated matter. Profound changes in the structure of the workplace and in the nature of jobs now makes reading, writing, and other communications skills vital to the performance of even entry level jobs. Research done at Indiana University by Larry Mikulecky found that 70 percent of the reading material in a cross-section of jobs nationally is now between ninth-grade and twelfth-grade difficulty (and 15 percent is even higher). And it is likely that literacy requirements will continue to increase in the years ahead. The trouble is that massive numbers of present and future workers have only minimal or marginal proficiency in the basic skills.

Source: U.S. Department of Labor (1988)

In stark contrast to the new skills requirements of today's workplace is the relative absence of change in educational curricula. New economic realities dictate not only improving the quality of education but also changing what is taught. Shanker underscores the mismatch of abilities and workplace requirements with a business metaphor: "If 80 percent of the products a company turned out were defective," he asks, "would the chief executive solve his problem by asking employees to work 20 minutes longer each day?" Hardly. Shanker extends the metaphor:

> No wonder the schools are producing so many lemons. They function much like the 19th-century factories they were originally designed to resemble. Batches of boys and girls still roll like widgets from room to room where each teacher puts a part on the kid. Classes are large and impersonal, lectures predominate, and every 40 minutes, just when the children settle down—Gong!—the bell sends them off to their next station. The result: gaggles of graduates with the forbearance needed for unskilled manual labor, but devoid of the problem-solving skills necessary for today's globally competitive workplace. (Quoted in Perry 1988)

Berryman (1989) argues that business will soon request a whole new cognitive framework from K-12 schools and higher education institutions. In

the Business-Higher Education Forum's 1990 statement to the National Governors Association the point was made more bluntly: "Work skill requirements, which aren't being met today, are going to rise as well as fundamentally change tomorrow" (Gardner 1990).

Tektronix is one of many electronics and high-tech industries in Portland that have formed the Portland Investment Partnership program to address job preparedness skills in the area (U.S. Department of Labor 1988). And central to the program's mission, given the high-tech nature of the local industry, is to prepare employees to be able to take advantage of ongoing retraining opportunities—a task many anticipate Portland's institutions of higher education will assume (Gardner 1990).

Mismatch between Skills and Workplace Needs

The U.S. has never enjoyed a particularly close correlation between articulated skills requirements and a corresponding educational training response. Compared to the Europeans and Japanese, the union between a U.S. graduate and the workplace resembles a fixed marriage of two unknowns resting on the faith that hard work, learning skills, and well-rounded intellectual awareness will work magic. Traditionally, the business community believes they can train if the student is educated, but business is reluctant "to do the schools' product-recall work for them."

Speaking on the necessity of greater coordination between educational goals and business needs, Shanker says, "We have hundreds of people struggling to find the same answer [to work force preparedness], and yet no system of sharing and communication" (Perry 1988). One reason may be that business has long enjoyed a surplus of capable graduates with the luxury of manageable onsite training requirements. No more. As companies scramble for qualified workers, they must go to greater lengths to fulfill their entry-level needs.

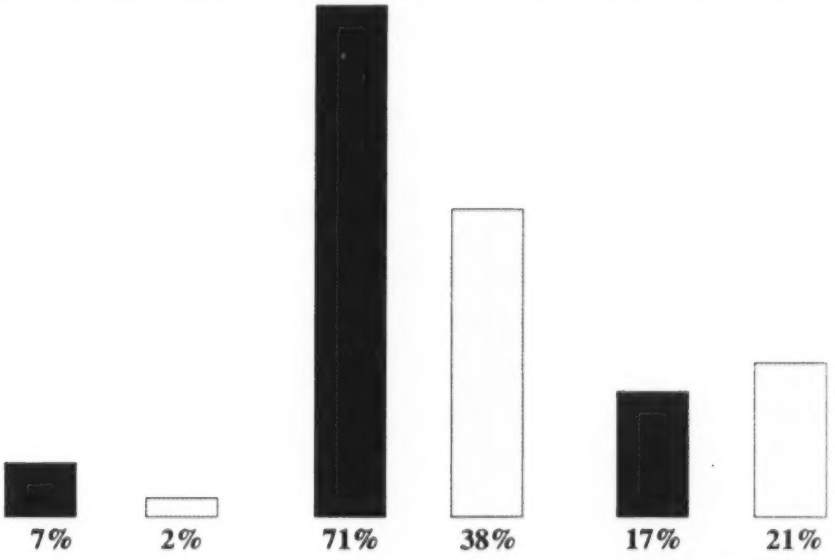
How will the supply of workers match up against the creation of new jobs between now and the year 2000? One perspective on the answer to this question is found in figure 1, which is adapted from data in an article in *Business Week*

Defective Students

NBC Nightly News, in a recent broadcast entitled "Defective Students," presented a graphic argument for staying in school—and doing well. Using Federal Express couriers as examples of how job skill requirements are changing, the broadcast followed a young courier as he worked with a computerized tracking system, handled state-of-the-art communications technology, and fielded company correspondence written at a twelfth-grade level of difficulty. The broadcast's point: Jobs for high school dropouts or graduates without sufficient basic skills are virtually disappearing, notwithstanding the rapid expansion of the service sector.

Source: U. S. Department of Labor (1988)

Figure 1: Comparison of Projected Supply of Workers with Number of Jobs Available According to Skill Levels



7% **2%** **71%** **38%** **17%** **21%**

Level 1 Skill: Has limited reading vocabulary of 2,500 words. Reading rate of 95 to 125 words per minute. Ability to write simple sentences.

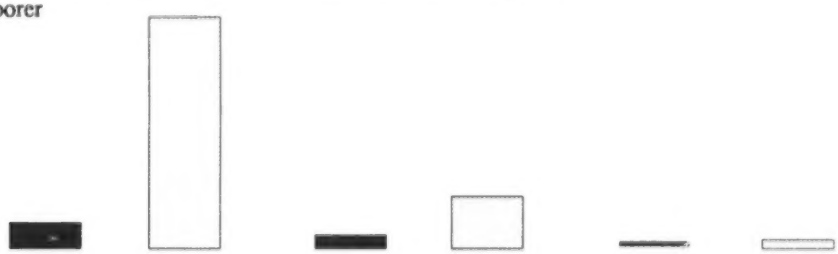
Typical Job: Construction laborer

Level 2 Skill: Has reading vocabulary of 5,000 to 6,000 words. Reading rate of 190 to 215 words per minute. Ability to write compound sentences.

Typical Job: Office assistant

Level 3 Skill: Can read safety rules and equipment instructions, and write simple reports.

Typical Job: Retail sales



3% **31%** **1.5%** **7%** **.5%** **1%**

Level 4 Skill: Can read journals and manuals, and write business letters and reports.

Typical Job: Nursing, management

Level 5 Skill: Can read scientific/technical journals and financial reports, and write journal articles and speeches.

Typical Job: Teaching, engineering

Level 6 Skill: Has same skills as level 5, but more advanced.

Typical Job: Chemist, academician

KEY ■ Percentage of new workers (ages 21-25) obtaining this skill level entering the labor market from 1985 to 2000. □ Percentage of new jobs requiring this skill level.

Source: Adapted from Bernstein (1988)

(Bernstein 1988). The magazine combined (1) a six-step scale (developed by the U.S. Department of Labor) for measuring job skills and (2) data generated by the Hudson Institute on new jobs that the economy will create.

The results portray a looming mismatch between jobs and workers as the U.S. moves toward the year 2000. The Labor Department measure uses a six-step scale of ascending reading, writing, and vocabulary skills needed to perform a wide range of tasks. The bars represent the percentage of workers aged 21-25 holding the specific skills identified (black bars) and the percentage of jobs available at that particular skill level (shaded bars) averaged over the years from 1985 to 2000.

How does one interpret the graph? Take level 4 skills as an example. As the figure shows, only 3 percent of workers entering the labor market by the year 2000 will possess this level of skills (for example, ability to read work-related journals and manuals and to write business letters and reports), whereas 31 percent of new jobs will require these skills.

Level 3 skills, required of retail salespersons, include the ability to write up orders, compute price lists, and read merchandise catalogs. The Labor Department estimates only 17 percent of the total new worker population will be capable of filling such positions, whereas 21 percent of new jobs will require these skills.

At the lower two levels of skills, workers are expected to outnumber available jobs by a wide margin (78 percent of workers will compete for 40 percent of jobs). At skill levels 3 through 6, the reverse is true (only 22 percent of workers will qualify for 60 percent of the economy's jobs). It is clear that employers who want highly skilled workers will be increasingly fishing in a shrinking labor pool, while many workers will find their educational background insufficient for the available jobs.

The estimated twenty-five million Americans who are functionally illiterate do not even qualify for level 1 positions, yet will try to compete for the 2 percent of available jobs in this category.

Dynamic may be the best term to describe the future economic marketplace, and while predicting specific economic developments is difficult, it is easy to see that education is the greatest security in these rapidly changing times. In the near future, when most jobs will be restructured every seven years, a national priority must be educating workers who can adjust to change, absorb new ideas, and have the skills to continually learn.

Says Xerox's Kearns, "There's going to be constant business reinvestment in education and training, to the extent that college, expensive as it is, will account for only a fraction of a person's lifetime education costs" (1990). As business becomes aware of the extensive inhouse costs of training, there will be a sudden emphasis on hiring individuals possessing broad-based, "building-block" communication skills. "We expect to spend the

equivalent of 20 percent of an employee's lifetime earnings on training—as much as $200,000 to $300,000 per person," say Kearns.

Better educated employees tend to be faster learners and retrain more quickly, which saves a company considerable time and money. And for Kearns and others, the future's demand for skilled employees is now:

> We're going to need employees who are not only proficient in the basic skills, but who also know how to think and how to communicate what they're thinking. We'll need workers who can adjust to change, who can absorb new ideas, and who can share them easily with others—We are in an era of lifelong learning that merges work and education. (Kearns 1990)

The future ability of the U.S. to compete as a world economic power lies in the ability of U.S. companies to hire capable employees now. Popular rumors that the U.S. is a declining economic empire or that Japan will be the dominant world power in the next century reflect the concerns the business community has over the lack of adequately educated prospective employees. It is in today's preparation for the future that the next century's economic powers will be determined, and that preparation calls for a crucial commitment to building a sound educational foundation to prepare for the economic uncertainties of tomorrow.

The Good Old (Simpler) School Days

It is popular lore that the English playwright Chaucer, who penned *Canterbury Tales* in the midfifteenth century, was the last person of letters to be familiar with every book printed in the English language.

Today's students and teachers, overwhelmed by the dizzying pace of keeping up with educational change, do not have the luxury of a common canon of knowledge. There is, quite simply, more to know with each succeeding year, and gradual curriculum additions reflect the growing pressures on students and teachers alike. What is the overall effect of this acceleration of change and increase in knowledge?

Consider a Department of Commerce study that determined approximately 90 percent of all scientific knowledge has been generated in the last thirty years. And this pool of knowledge will double again in the next ten to fifteen years. "The pace of technological development now is so great that life cycles for electronics products and processes already have collapsed to three to five years, and rarely will exceed five to ten years in most other industries. As a result, any set of skills also can be obsolescent in five to ten years—education must give our students greater learning and critical thinking skills, for soon work and learning will be inseparable," states a Department of Commerce report.

Chapter 5

Needed: A New Spirit of Championing Education

Depending on your perspective, these are either the best of times or worst of times for educators. According to the optimistic view, lack of work force preparedness and declining U.S. educational achievement levels has prompted a healthy renewal of emphasis on our nation's educational system. The pessimistic view counters that benign neglect of education has left us with a failing educational structure and the promise of band-aid measures for the future, with educators to blame for the consequences.

Neither view offers a solution to the problem of educational system deficiencies, which are caused, in part, by two decades of neglect by the American public. What is needed is a new consciousness concerning education, a consciousness born of a campaign aimed at raising our national awareness of its importance to individual empowerment.

When one realizes that the U.S. ranks fourteenth out of sixteen industrial nations in the share of gross national product devoted to precollege education—it would take $20 billion a year to bring us up to average—it is clear the U.S. is missing an important insight (Broder 1990). The primary hurdle is to first become convinced of education's importance. "Other countries actively build awareness surrounding education, work to solidify their school's image as investment, as opportunity, while our silence leads to decay," says Larry Austin, director of information for the Oregon Department of Education. "We, meaning educators, have basically failed to champion our very enterprise, and we're suffering the consequences now," he adds.

Community colleges, Austin notes, are the notable exception within the education community; many actively communicate the value of pursuing education beyond high school. Not surprisingly, community colleges are the

The Future of Oregon Is...

"In Oregon today, we are preparing people for the twenty-first century—and we must pay whatever it costs. People in Oregon have repeatedly supported education, there is no problem there. The problem is that we don't think about education in the ultimate terms we must.

"School people have not done a good job of explaining what we're about and why, and the extension of what we do (or don't get done) into all segments of daily life. Support for education needs to be communicated nationwide—local districts, the state level, and the federal government—and in a macro sense—and we've done a lousy job in that area. From a national standpoint, we support education poorly—from the federal government on down.

"If we don't gain a completely new respect for the education mission, rethink education at an entirely new level of commitment, we will be in trouble. A literate, skilled workplace is vital to the survival of our nation.... The federal government must get involved. The business community knows it can't survive without a literate, trained work force—we're always twenty years behind, and we don't have the time."

—Vernon Bittner, Superintendent, Douglas Education Service District, Roseburg, OR

fastest growing sector of U.S. education.

Where Is Common Sense?

In the political arena, where various interests compete for a finite number of public dollars and attention, it is tragic that educators complacently hope "common sense will prevail" rather than actively solicit public support. Common sense is obviously not prevailing when the nation tolerates a 25 percent dropout rate.

Ernest Boyer, president of the Carnegie Foundation for the Advancement of Teaching, doesn't understand U.S. complacency toward education. "If a health epidemic were striking one-fourth of the children in this country...if we had heaps of garbage on the curb, a national emergency would be declared. But when hundreds of thousands of students leave school every year, shockingly unprepared, the nation remains far too lethargic" (1987).

Meager Federal Support for Research

Responsible in part for the lack of advocacy surrounding education is the genuine dearth of research examining education's value. Thousands of dissertations, journal articles, and presentations annually address teaching and learning, yet the number of educational demographers—such as Hodgkinson and Berryman—are few.

Since 1980, social programs that benefit children have suffered budget cuts in real terms, while programs benefiting the elderly have grown faster than inflation.

Underscoring our neglect of education is the minuscule federal support for educational research. Public education is a $150 billion dollar a year business, but the government spends only $100 million a year on research to support it. That is less than .1 percent of the total educational budget.

Annual U.S. Government Expenditures

$ .1 billion	Total U.S. budget on research supporting education
$ 2.4 billion	Care and education of preschoolers
$ 8.7	Space research and technology
$ 38	Military research, development, and testing.
$320	Total military budget (1990)

Source: Kearns (1990)

"We spend more on agriculture research than we do on educational research. We know more about pork bellies and soybean futures than we do about our schools," says Kearns. For comparison, Xerox Corporation spends roughly 7 percent on research and development, which comes out to roughly $750 million a year, according to Kearns (1990). Research on school and classroom organization, learning theories and instructional techniques, and emerging educational technologies, meanwhile, receives the majority of funding, while comprehension of the fundamental educational enterprise remains incomplete.

Awakening to the Learning Crisis

Our agrarian-calendar based school year is a graphic reminder of the relative position education holds in the U.S. psyche. Education fits around the agricultural season, schools seek to provide "minimum" skills, we debate whether $4,200 is too much money to spend per pupil per year—in effect, education is a low priority, and suffers from severe lack of prestige, understanding, and appreciation.

The true crisis for education today is a fundamental lack of public awareness. The crisis calls for a new activism, a new spirit of championing education by educators and all who are concerned about the learning crisis. It is time to rethink education as a social, political, and economic investment. Education's immense payoffs in future economic and community well-being must be communicated now or the consequence will be continued mediocrity and waste.

Says Susan Ehrlich in *Business Week*, "Schools are the crucible where children do or don't become productive members of the community. For children growing into citizens—and for a society that wants to prosper—education is just too important to entrust to the status quo" (1988).

While we have floundered as champions of education, the Japanese have flourished. Japan has capitalized on its most important resource—its people—and has demonstrated that human capital can be created by deliber-

ate acts of public policy. The Japanese point out that we look only at the short run; when payoffs are delayed, when long-term commitment is required, we don't answer the call.

The Costs of Continued Neglect

Our future rests upon the 40,000,000 students now enrolled in K-12 schools, and their current educational status prompts concern on several fronts. A dynamic and unpredictable economy already makes more demands than today's graduates can satisfy, and it will be even more so in the future. A growing skills gap exists, where new job seekers compete for a dwindling number of low-skilled, service-sector jobs, while higher-skilled jobs remain unfilled due to the lack of qualified workers. The result: Wages for low-skilled workers are driven down, while skilled employees' wages are raised, leading to an even more divided society than we have now.

Lost economic opportunity and social stratification are not the only consequences of inadequate education. The social costs associated with undereducation—public outlays for incarceration, welfare, unemployment, and so forth, as a percentage of national GNP in constant dollar terms— are the highest in U.S. history.

Beyond all the quantitative, economic-based indicators are hints from other sources, more difficult to interpret yet possibly more threatening, that undereducating forebodes social and cultural deterioration. For instance, how does one interpret a 1990 survey that found the average working vocabulary of a high school senior, which was 25,000 words in 1955, has dropped to 10,000 today? How significant is the decline in political awareness and voting behavior of U.S. youth? While the CEO of Citicorp asks, "How can we stay leader of the free world when we rank 49th in literacy?" social analysts wonder what happens to our democratic community well-being when our cultural and political literacy disappears.

The battle for educators, and education in general, is foremost a struggle to build awareness. The Japanese, Germans, and Swedes, among others, do not struggle with school finance problems as we do—their primary battle to convince their public of education's inherent value has already been won. To effectively move education up the list of U.S. priorities, educators must first recognize the lack of understanding concerning education's total impact and then mobilize to build a new base of awareness. Once advocates of education succeed in their public relations efforts, the political hurdles to building a stronger national education base will begin to fade.

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